No. 200100015

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Abbott & Cobb, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN, SWEET (F1)

'#820Y'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this tenth day of May, in the year two thousand and four.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions*

Form Approved - OMB No. 0581-005

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER
Abbott & Cobb, Inc.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME
ACX 812

3. VARIETY NAME
~~ACX 812~~ #820Y

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
4151 Street Road
P. O. Box 307
Feasterville, PA 19053-0307

5. TELEPHONE *(include area code)*
215-245-6666

6. FAX *(include area code)*
215-245-1068

FOR OFFICIAL USE ONLY

PVPO NUMBER
200100015

FILING DATE
10/12/2000

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
Corporation

8. IF INCORPORATED, GIVE STATE OF INCORPORATION
PA

9. DATE OF INCORPORATION
1/1/74

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*

a) Dr. Bryant Long
Abbott & Cobb, Inc.
11460 Fortune Circle
West Palm Beach, FL 33414

b) Keith Parr, Esq.
Lord, Bissell & Brook
115 So. LaSalle Street
28th Floor
Chicago, IL 60603

FEES RECEIVED

FILING AND EXAMINATION FEES:
$ 2,705.00
DATE 10/10/00

CERTIFICATION FEE:
$ 432.00
DATE 4/14/04

11. TELEPHONE *(Include area code)*
a) 561-795-0121
b) 312-443-0497

12. FAX *(Include area code)*
a) 561-795-0251
b) 312-443-0336

13. E-MAIL
a) bryantlong@aol.com
b) kparr@lordbissell.com

14. CROP KIND *(Common Name)*
sweet corn

18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)

- a. ☒ Exhibit A. Origin and Breeding History of the Variety
- b. ☒ Exhibit B. Statement of Distinctness
- c. ☒ Exhibit C. Objective Description of Variety
- d. ☐ Exhibit D. Additional Description of the Variety *(Optional)*
- e. ☒ Exhibit E. Statement of the Basis of the Owner's Ownership
- f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
- g. ☒ Filing and Examination Fee ($2,705), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *See Section 83(a) of the Plant Variety Protection Act)*
☐ YES *(If "yes", answer items 20 and 21 below)* ☒ NO *(If "no," go to item 22)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? ☐ YES ☐ NO
IF YES, WHICH CLASSES? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

21. DOES THE OWNER SPECIFY THAT THE CLASSES BE LIMITED AS TO NUMBER OF GENERATIONS? ☐ YES ☐ NO
IF YES, SPECIFY THE NUMBER 1, 2, 3, *etc.* ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

(If additional explanation is necessary, please use the space indicated on the reverse.)

22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☐ YES ☒ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☒ YES ☐ NO
IF YES, GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*
9600094 '781 ultra'

24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER	SIGNATURE OF OWNER
Arthur C. Abbott Pres/CEO	
NAME *(Please print or type)*	NAME *(Please print or type)*
Abbott & Cobb, Inc.	
CAPACITY OR TITLE: Chief Executive Officer	DATE: 10/30/00
CAPACITY OR TITLE	DATE

1

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for $2,705 ($320 filing fee and $2,385 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amoun of $320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvp.htm

ITEM

18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, *etc.*

18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

19. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

21. *See Section 83 of the Act for the Contents and Term of Plant Variety Protection.*

22. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

23. *See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.*

21. CONTINUED FROM FRONT *(Please provide a statement as to the limitation and sequence of generations that may be certified.)*

22. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

23. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089.

S&T-470 (2-99) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (6-98) which is obsolete.

JMS 6/13/02

FIGURE 4A

EXHIBIT A

ORIGIN AND BREEDING HISTORY OF ~~ACX 812~~ #820Y

AC 66288	**X**	**AC 145**
SU1SU1sesesh2sh2		**su1su1sesesh2sh2**

~~ACX 812~~ #820Y
SU1su1sesesh2sh2

EXHIBIT A

ORIGIN AND BREEDING HISTORY OF ~~ACX 812~~ #820Y

A SERIES OF BREEDING TECHNIQUES WERE UTILYZED IN THE CONSTRUCTION OF THE NOVEL GENETIC MAKE-UP OF ~~ACX 812~~ #820Y

TECHNIQUES INVOLVED PRIMARILY PEDIGREE BREEDING, POPULATION IMPROVEMENT, BACKCROSS BREEDING, AND MASS SELECTION AMONG OTHERS.

THE NEED FOR VARIED BREEDING TECHNIQUES AND STRATEGIES WAS RELATED TO THE ESSENTIALLY BROAD AGRONOMIC AND COSMETIC REQUIREMENTS OF SWEET CORN.

IN ESSENCE, THE PLANT PART CONSUMED AS SWEET CORN IS THE IMMATURE KERNEL WHICH CONSISTS PRIMARILY OF ENDOSPERM AND OVARY WALL (IMMATURE PERICARP). EATING QUALITY, IN GENERAL, IS CONTROLLED BY NUMEROUS GENES THAT DIFFERENTIATE SWEET AND FIELD CORN TISSUES.

SWEET CORN EATING QUALITY IS DETERMINED BY THE FLOVOR, SWEETNESS, AND TEXTURE OF THE ENDOSPERM AND THE TENDERNESS OF THE PERICARP (1).

POLYGENIC INHERITANCE, PLEOTROPIC GENE INTERACTION,

GENETIC BE ENVIRONMENTAL EFFECTS, AND SIGNIFICANT RECESSIVE GENE EFFECTS ARE WELL DOCUMENTED (2).

JMS 8/13/02

THE INITIAL PHASE IN THE CONSTRUCTION OF ~~ACX 812~~ #820Y INVOLVED THE DEVELOPMENT OF THE FEMALE PARENT (AC 66288).

THE UNIQUE ASSOCIATION OF SUGARY ENHANCER (se) AND SHRUNKEN-2 (sh2) GENETIC COMPONENTS IS SHOWN IN FIGURE 2.

SOURCE MATERIALS FOR THE CREATION OF AC 66288 INVOLVED, IN PART, THE UTILYZATION OF THE COMMERCIAL SWEET CORN HYBRIDS INCREDIBLE, BODACIOUS, AND MIRACLE. THESE HYBRIDS ARE COMMERCIAL RELEASES BY CROOKHAM COMPANY AND INVOLVE SUGARY ENHANCER BACKGROUNDS (su1su1sesesh2sh2).

AN ADDITIONAL SOURCE MATERIAL FOR ~~ACX 812~~ #820Y INVOLVED THE ABBOTT AND COBB INBRED LINE AC 03. THIS LINE HAS BEEN DESCRIBED IN THE PVP for AC 33892. FIGURE 1A SUMMARIZES THE ORIGIN AND DEVELOPMENT OF AC 03.

JMS 3/26/02

THE GENETIC BACKGROUND OF AC 03 INVOLVES THE ASSOCIATION OF SHRUNKEN-2 (sh2) AND SUGARY ENHANCER (se) ENDOSPERM MUTANTS (SU1SU1sesesh2sh2).

THE RESULTING TOPCROSS UTILYZING INCREDIBLE, BODACIOUS, MIRACLE AND AC03 PRODUCED THE LINE AC 762. AC 762 WAS THEN BACKCROSSED REPEATEDLY TO AC 03. AT THE THIRD BACKCROSS

Development of female parent (continued)

GENERATION, SELFING AND ANALYTICAL, WITH ASSOCIATED ORGANOLEPTIC TESTING PROCEDURES, WERE INITIATED.

ANALYTICAL PROCEDURES WERE IMPLEMENTED TO TEST SUCROSE LEVELS, THE MAJOR SUGAR OR SWEETNESS COMPONENT IN SWEET CORN (3). PERICARP QUANTIFICATION, WHICH INDICATED TENDERNESS, WAS ALSO UTILYZED IN CONJUNCTION WITH SUGAR ANALYSES. ORGANOLEPTIC EVALUATIONS WERE IMPLEMENTED TO CONFIRM THE MORE OBJECTIVELY BASED LABORATORY MEASURMENTS.

THE EXACT ANALYTICAL PROCEDURES FOR SUGAR AND PERICARP TESTING ARE GIVEN IN THE CURRENT EXHIBIT B.

THESE ANALYTICAL PROCEDURES WERE CONSIDERED NECESSARY AS SEGREGATING POPULATIONS INVOLVE THE NUMEROUS STARCH DEFECTIVE GENETIC ALLELES, I. E., sh2, se, su1, ETC., ALONG WITH MANY ASSOCIATED AND AUCHARACTERIZED MODIFIERS (4). IN ADDITION, MOST OF THE GENETIC ELEMENTS THAT CONDITION HIGH SUGARS ARE RECESSIVELY INHERITED (5).

IN THE S1 GENERATION, 22(10.42 %) OF 211 EARS WERE ANALYTICALLY DETERMINED TO EXPRESS HIGH SUCROSE LEVELS. OF THE 22 HIGH SUCROSE SEGREGANTS, 11 (50.00 %) WERE DETERMINED TO

Development of female parent (continued)

EXHIBIT FAVORABLY TENDER PERICARP LEVELS.

SIMILARLY, IN THE S2 GENERATION, SUCROSE ANALYSES RESULTED IN 41 EARS (21.92 %) EXPRESSING HIGHER SUGAR CONCENTRATIONS. OF THE 41 EARS, 26 (63.41 %) WERE DETERMINED TO EXHIBIT REDUCED PERICARP LEVELS.

AN EQUIVALENT SCREENING FOR FAVORABLE SUCROSE AND PERICARP LEVELS WAS CONDUCTED IN THE S3 THROUGH S5 GENERATIONS.

AFTER COMPLETION OF THE S5 GENERATION APPROXIMATELY 95.24 PERCENT OF THE SEGREGANTS EXHIBITED HIGH SUCROSE LEVELS. OF THE 140 EARS SELECTED FOR ELEVATED SUCROSE CONTENT, 97,14 PERCENT EXPRESSED FAVORABLY LOW PERICARP LEVELS.

SIX ADDITIONAL GENERATIONS OF SELFING WERE EFFECTED TO CONFIRM STABILITY AND UNIFORMITY OF SUCROSE, PERICARP, AND OTHER HORTICULTURAL CHARACTERISTICS.

NO VARIANTS OR OFFTYPES WERE NOTED IN THE FIVE GENERATIONS OF INBREEDING.

WE CONSIDERED AC 66288 GENETICALLY STABLE AND TRUE TO TYPE FOR ALL TRAITS OBSERVED.

Development of female parent (continued) FIGURE 1A

BREEDING HISTORY AND ORIGIN OF AC 03

AC SH2 01	IL 677A	SILVER QUEEN
	AC SE 01	JUBILEE
X	X	BONANZA
AC SH2 26	AC SE 08	BELLRINGER

↓

936 F1 PEDIGREES

↓ SELF POLLINATION

936 F2 FAMILIES REDUCED TO 263 LINES ON THE BASIS OF SUPERIOR HORTICULTURAL FEATURES (VIA MASS SELECTION AND BULKING WITHIN PEDIGREES).

↓

SELECTION WITHIN F3 FAMILIES VIA ORGANOLEPTIC AND QUANTITATIVE ENDOSPERM BIOCHEMICAL ANALYSES - 197 EARS SAVED FROM 112 OF 263 FAMILIES TESTED.

↓

SIMILAR ORGANOLEPTIC AND QUANTITATIVE ANALYSES FOR FOUR SUBSEQUENT SELF POLLINATED GENERATIONS.

↓

TWO GENERATIONS OF SELF POLLINATION AND FINAL STABILIZATION OF HORTICULTURAL CHARACTERS RESULTING IN 14 FINISHED INBREDS.

↓

IDENTIFICATION OF AC 03

Development of female parent (continued)

FIGURE 2A.

EXHIBIT A

ORIGIN AND BREEDING HISTORY OF AC 66288

INCREDIBLE BODACIOUS MIRACLE **X** **AC 03**

AC 762

BC 1

BC 2

BC 3

AC 811

S1 – S11

AC 66288

S1 GENERATION – PORTIONS OF SELF POLLINATED EARS FROM 211 PLANTS OF AC 811 ANALYZED FOR SUCROSE LEVELS – 22 EARS (10.42 %) EXPRESSING HIGHEST SUGARS WERE TESTED FOR PERICARP LEVELS. SEED REMNANT PORTIONS OF 11 EARS (50.0 %) SAVED AND BULKED

S2 GENERATION – 187 INDIVIDUAL SELF POLLINATED EARS ANALYZED FOR SUCROSE CONTENT RESULTING IN 41 EARS (21.92%) SELECTED AND TESTED FOR PERICARP LEVELS. SEED REMNANT PORTIONS OF 26 EARS (63.41%) SAVED ABD BULKED

Development of female parent (continued)

S3 GENERATION – 169 INDIVIDUAL SELF POLLINATED EARS ANALYZED FOR SUCROSE CONTENT RESULTING IN 78 EARS (46.15%) SELECTED AND TESTED FOR PERICARP LEVELS. SEED REMNANT PORTIONS OF 64 EARS (82.05 %) SAVED AND BULKED

S4 GENERATION – 172 INDIVIDUAL SELF POLLINATED EARS ANALYZED FOR SUCROSE CONTENT RESULTING IN 139 EARS (80.81%) SELECTED AND TESTED FOR PERICARP LEVELS. SEED REMNANT PORTIONS OF 121 EARS (87.05%) SAVED AND BULKED

S5 GENERATION - 147 INDIVIDUAL SELF POLINATED EARS ANALYZED FOR SUCROSE CONTENT RESULTING IN 136 EARS (95.24 %) SELECTED AND TESTED FOR PERICARP LEVELS. SEED REMNANT PORTIONS OF 136 EARS (97.14 %) SAVED AND BULKED

SIX ADDITIONAL GENERATIONS OF SELFING FINALIZING AC 66288 (SU1SU1sesesh2sh2)

Development of male parent

SOURCE MATERIALS FOR THE DEVELOPMENT OF AC 145 INVOLVED FLA 2132 su1 AND ABBOTT AND COBB HYBRID #781 ULTRA.

THE INBRED PARENT FLA 2132 su1 WAS OBTAINED FROM DR. EMIL WOLFE, UNIVERSITY OF FLORIDA. FLA 2132 su1 IS A LONG STANDING SWEET CORN PARENTAL RELEASE CONCIDERED TO BE UTILYZED IN THE DERIVATION OF COMMERCIAL GERMPLASM.

THE SWEET CORN HYBRID #781 ULTRA IS A COMMERCIAL PRODUCT MARKETED BY ABBOTT AND COBB SEED COMPANY (PVP APPLICATION 9600094 '#781 ULTRA').

FLA 2132 su1 WAS CHOSEN FOR USE PRIMARILY ON THE BASIS OF ITS HORTICULTURAL SUPERIORITY, I.E., STRONG PLANT, GOOD YIELD, ETC.

#781 ULTRA WAS SELECTED ON THE STRENGTH OF ITS SUPERIOR EATING QUALITY ATTRIBUTES.

THE INITIAL CROSS OF FLA 2132 su1 BY #781 ULTRA RESULTED IN THE HYBRID AC 101.

AC 101 WAS THEN BACKCROSSED REPEATEDLY TO #781 ULTRA FOR FOUR BACKCROSS GENERATIONS WITH CONTINUOUS SELECTION FOR THE su1, se, AND sh2 GENOTYPES.

AT THE COMPLETION OF THE BC4 GENERATION THE HOMO-

Development of male parent (continued)

ZYGOUS su1su1sesesh2sh2 GENOTYPE WAS SELECTED AND ESTABLISHED.

SEVEN ADDITIONAL GENERATIONS OF SELFING WERE EFFECTED TO VERIFY GENETIC STABILITY AND HORTICULTURAL UNIFORMITY. NO VARIANTS OR OFFTYPES WERE NOTED IN THE SEVEN GENERATIONS OF INBREEDING.

AC 145 WAS CONSIDERED TO BE GENETICALLY STABLE AND UNIFORM FOR ALL TRAITS OBSERVED.

→ Uniformity and Stability of Hybrid

CONFIRMATION OF GENETIC STABILITY OF #820Y HAS BEEN CONFIRMED THROUGH RECONSTITUTION AND ANALYSIS FOR HORTICULTURAL STABILITY. FIVE INDEPENDENT HYBRID SEED PRODUCTION EVENTS (THREE VIA SMALL COMMERCIAL PILOT PRODUCTIONS AND TWO BY LARGE SCALE HAND POLLINATIONS) RESULTED IN NO OBSERVABLE DEVIATIONS IN GENETIC UNIFORMITY.

THIS, COUPLED WITH SIX AND SEVEN GENERATIONS OF CONFIRMED GENETIC STABILITY IN THE FEMALE AND MALE PARENTS, RESPECTIVELY LEAD US TO CONCLUDE THAT #820Y IS STABLE AND HORTICULTURALLY UNIFORM.

JMS 5/27/03

Development of male parent (continued)

FIGURE 3A

EXHIBIT A

ORIGIN AND BREEDING HISTORY OF AC 145

FLA 2132 SU1 **X** **#781 ULTRA**
su1su1SESESH2SH2 **SU1SU1sesesh2sh2**

AC 101
SU1su1SeseSH2sh2

BC1

BC2

BC3

BC4

SEVEN GENERATIONS OF SELFING AND SELECTION

AC 145
su1su1sesesh2sh2

2001 00015

DRAFT Exhibit A Form

1. Describe the genealogy (back to and including public and commercial varieties, lines, or clones used) and the breeding method(s).

2. Give the details of subsequent stages of selection and multiplication.

Year	Detail of Stage	Selection Criteria

3a. Is the variety uniform? X Yes ____ No

How did you test for uniformity?

A) Electrophoretically - checking for variants and any putative offtypes - none noted.

B) Visually, i.e., physical grow outs → parental and hybrid materials were inspected and evaluated in 1000 plant replicated plantings - no observed offtypes or variants noted.

3b. Is the variety stable? X Yes ____ No

How did you test for stability? Over how many generations?

Utilized procedures listed above - upon completion of breeding developmental procedures all materials were evaluated and found to be stable and genetically pure (6 generations of female; 7 generations of male)

SMS 6/13/02

4. Are genetic variants observed or expected during reproduction and multiplication? ____ Yes X No

If yes, state how these variants may be identified, their type and frequency.

Continue on additional pages if necessary.

EXHIBIT B
STATEMENT OF DISTINCTNESS

The uniqueness of '#820Y' relates to its new and novel association of genetic factors resulting in improved eating quality and shelf life. In this regard, '#820Y' is the first documented example whereby the specifically higher levels of expression of SU1, se, and sh2 are assembled in one hybrid. Based on overall morphology, '#820Y' is most similar to the commercial variety 'SS 7210'.

Tables 15 and 16 present sucrose and pericarp measurements for '#820Y' along with comparative data for the commercial hybrids 'SS 7210' and '#781 Ultra'. 'SS 7210' is an established, long-standing, commercial variety released by Abbott and Cobb, Inc. '#781 Ultra' is an exceptionally sweet and tender commercial variety considered to be a standard for improved eating quality (PVP 9600094).

Hybrid '#820Y' shows significant elevations in sucrose levels compared to 'SS 7210' (35.35 versus 21.09, respectively). Similarly, '#820Y' exhibited significantly reduced pericarp levels (0.90 versus 1.18, respectively).

These data demonstrate attributes of the unique and novel genetic constitution of '#820Y' compared to hybrid materials currently available in the marketplace. The unique genetic composition of '#820Y' results in elevated sucrose concentrations with substantially more tender pericarp levels. To our knowledge this is the first documented example whereby these exact genetic elements have been assembled into one sweet corn hybrid.

TABLE 2

SWEET CORN GENETIC TYPES

GENETIC TYPE	CLASS	EXAMPLE
su1su1SESESH2SH2	Conventional Sugary	Silver Queen (Novartis)
SU1SU1SESEsh2sh2	Supersweet	SS 7210 (Abbott & Cobb)
SU1SU1sesesh2sh2	Multisweet	#781 Ultra (Abbott & Cobb)
SU1su1sesesh2sh2	----------	#820Y (Abbott & Cobb)

TABLE 15

COMPARATIVE SUCROSE CONCENTRATIONS FOR
THREE SWEET CORN HYBRIDS (PERCENT DRY WEIGHT)

HYBRID	REP 1	REP 2	REP 3	MEAN*
SS 7210	20.41	23.22	19.64	21.09 a
#781 Ultra	30.08	32.63	32.93	31.88 b
#820Y	34.91	35.22	35.92	35.35 b

*Means followed by a different letter are significantly different based upon the Duncans Multiple Range Test at P = 0.05

Sucrose, fructose, and glucose levels were determined utilizing a YSI Model 2700 Biochemistry Analyzer. The procedure entails homogenization of 10 g samples of kernels in 100 ml distilled water. One hundred deciliter quantities were injected directly into the YSI Model 2700 Analyzer. In essence, the substrate in the sample is oxidized via the YSI 2700 Analyzer by means of one or more enzymes. The resulting initial end product is ultimately hydrogen peroxide that is in turn oxidized electrochemically by a platinum anode in the probe. By formula, the recorded values are back calculated to glucose or related sugar concentrations.

All sugar assays were performed when ears were approximately 74-75% moisture.

TABLE 16

COMPARATIVE PERICARP AMOUNTS IN THREE SWEET CORN HYBRIDS (PERCENT DRY WEIGHT)

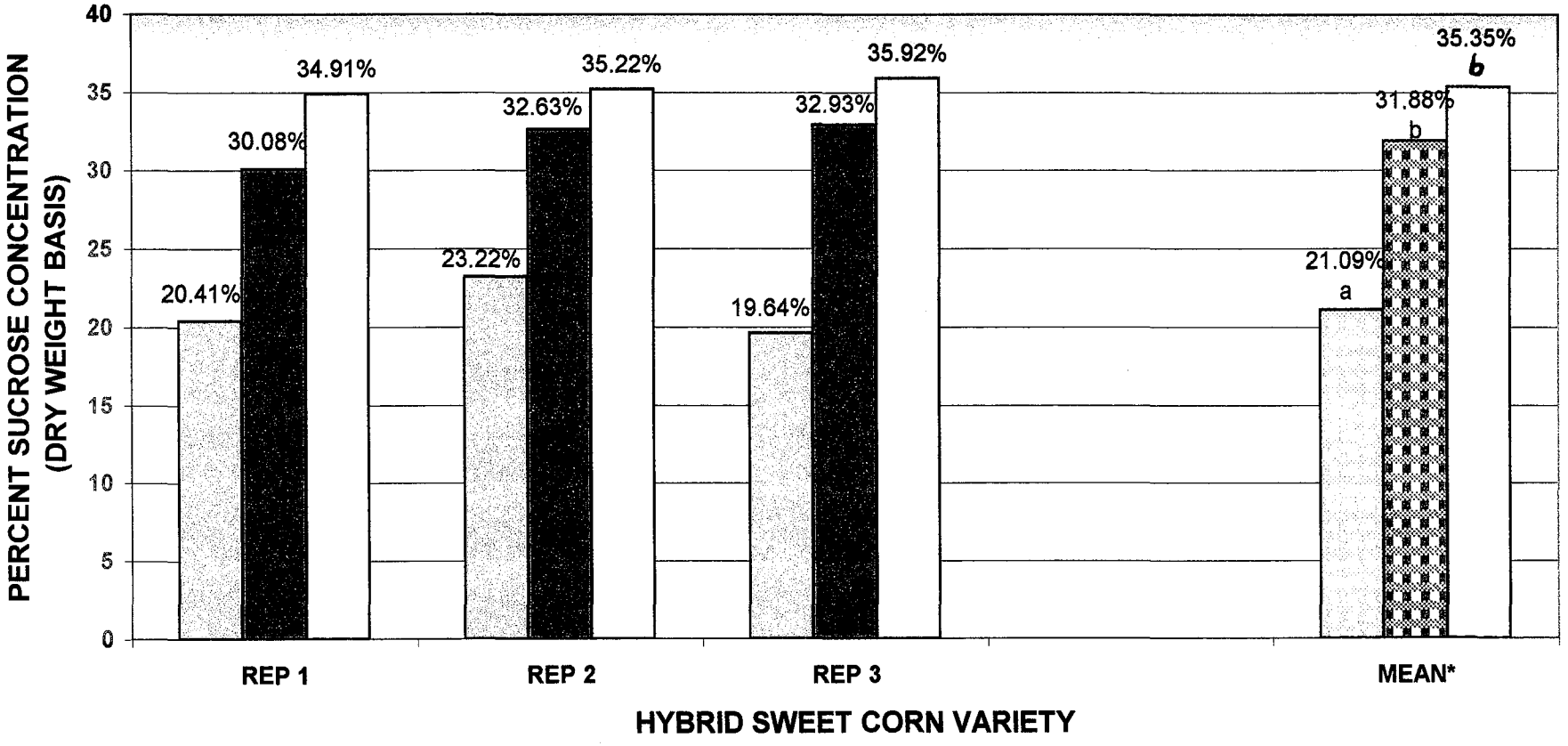
HYBRID	REP1	REP2	REP3	MEAN*
SS 7210	1.21	1.16	1.17	1.18 a
#781 Ultra	1.04	0.98	1.01	1.01 b
#820Y	0.85	0.93	0.92	0.90 c

*Means followed by a different letter are significantly different based upon the Duncans Multiple Range Test at P = 0.05

To determine pericarp levels, the procedures outlined by Shannon (Shannon, J. 1985. Personal communication. Cornell University) were utilized. The procedure involves homogenizing 100 g of sweet corn kernels in 100 ml distilled water. The resultant homogenate is applied to a #10 mesh sieve screen. The homogenate is then washed repeatedly to eliminate all materials except for the larger sized pericarp fraction retained by the sieve screen. The pericarp fraction is dried via convection oven at 100 degrees centigrade for 24 hours until dry weight residues are weighed and recorded.

Pericarp measurements were conducted when ears were at approximately 74-75% moisture.

FIGURE 17A
COMPARATIVE SUCROSE CONCENTRATIONS FOR THREE SWEET CORN HYBRIDS
(PERCENT DRY WEIGHT)



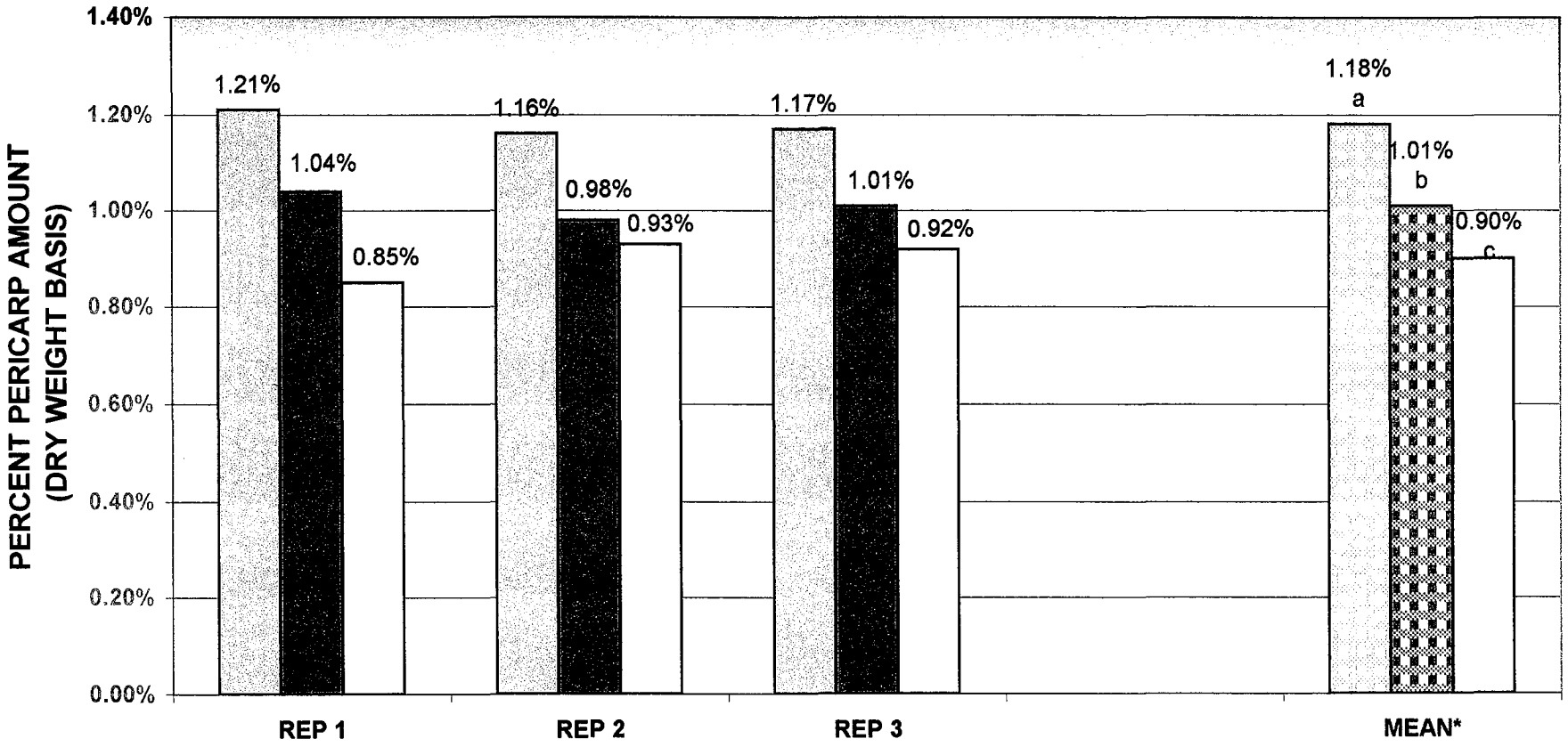
*Means followed by a different letter are significantly different based upon The Duncans Multiple Range Test at P=0.05

#820Y

■ SS 7210 ■ 781 ULTRA ■ ~~ACX 812~~

JMS 6/13/02

FIGURE 18A
COMPARATIVE PERICARP AMOUNTS IN THREE SWEET CORN HYBRIDS
(PERCENT DRY WEIGHT)



*Means followed by a different letter are significantly different based upon the Duncans Multiple Range Test at P=0.05

820Y

JMS 6/13/02

19

20010015

FORM SC-470-28
(9-1-92)

EXHIBIT C
(Corn; Maize)

United States Department of Agriculture, Agricultural Marketing Service
Science Division, Plant Variety Protection Office
National Agricultural Library Building, Room 500
Beltsville, MD 20705

OBJECTIVE DESCRIPTION OF VARIETY
CORN (*Zea mays* L.)

Name of Applicant(s)	Variety Seed Source	Variety Name or Temporary Designation
Abbott and Cobb, INC		~~ACX~~ ~~812~~ #820Y

Address (Street & No., or R.F.D. No., City, State, Zip Code and Country)
P.O. Box 307
Feasterville, PA 19053-0307 U.S.A.

FOR OFFICIAL USE
PVPO Number 200100015

Place the appropriate number that describes the varietal characters typical of this inbred variety in the spaces below. Right justify whole numbers by adding leading zeroes if necessary. Completeness should be striven for to establish an adequate variety description. Traits designated by a '*' are considered necessary for an adequate variety description and must be completed.

COLOR CHOICES (Use in conjunction with Munsell color code to describe all color choices; describe #25 and #26 in Comments section):

01=Light Green	06=Pale Yellow	11=Pink	16=Pale Purple	21=Buff
02=Medium Green	07=Yellow	12=Light Red	17=Purple	22=Tan
03=Dark Green	08=Yellow-Orange	13=Cherry Red	18=Colorless	23=Brown
04=Very Dark Green	09=Salmon	14=Red	19=White	24=Bronze
05=Green-Yellow	10=Pink-Orange	15=Red & White	20=White Capped	25=Variegated (Describe)
				26=Other (Describe)

STANDARD INBRED CHOICES (Use the **most similar** (in background and maturity) of these to make comparisons based on **grow-out trial data**):

Yellow Dent Families:

Family	Members
B14	CM105, A632, B64, B68
B37	B37, B76, H84
B73	N192, A679, B73, NC268
C103	Mo17, Va102, Va35, A682
Oh43	A619, MS71, H99, Va26
WF9	W64A, A554, A654, Pa91

Yellow Dent (Unrelated):
Co109, ND246,
Oh7, T232
W117, W153R
W182BN

White Dent:
CI66, H105, Ky228

Sweet Corn:
C13, Iowa5125, P39, 2132

Popcorn:
SG1533, 4722, HP301, HP7211

Pipecorn:
Mo15W, Mo16W, Mo24W

1. TYPE: (describe intermediate types in Comments section)
* 1 1=Sweet 2=Dent 3=Flint 4=Flour 5=Pop 6=Ornamental 7=Pipecorn — see comments bottom page 4

Standard ~~Inbred~~ Hybrid Name Miracle
1

2. REGION WHERE DEVELOPED IN THE U.S.A.:
* 4 1=Northwest 2=Northcentral 3=Northeast 4=Southeast 5=Southcentral 6=Southwest 7=Other _____ — See comments bottom page 4

Standard Seed Source Crookham Company
4

3. MATURITY (In Region Best Adaptability; show Heat Unit formula in "Comments" section):

	DAYS	HEAT UNITS		DAYS	HEAT UNITS
*	56	1234.	From emergence to 50% of plants in silk	55	1244.
*	55	1211.	From emergence to 50% of plants in pollen	53	1203.
	2	44.	From 10% to 90% pollen shed		44.
(*)	19	431.	From 50% silk to optimum edible quality	20	432.
	71	1284.	From 50% silk to harvest at 25% moisture	66	1202

4. PLANT:

	Standard Deviation	Sample Size		Standard Deviation	Sample Size
* 170.2 cm Plant Height (to tassel tip)	11.63	25	176.3	14.1	25
* 57.2 cm Ear Height (to base of top ear node)	7.41	25	56.3	8.4	25
21.6 cm Length of Top Ear Internode	3.72	25	21.1	2.3	25
0.7 Average Number of Tillers	0.08	25	0.1	0.04	25
* 1.0 Average Number of Ears per Stalk	0.09	25	1.1	0.09	25

1 Anthocyanin of Brace Roots: 1=Absent 2=Faint 3=Moderate 4=Dark — —

21

Application Variety Data	Page 2		Standard Inbred Data 20010015		
5. LEAF:	Standard Deviation	Sample Size		Standard Deviation	Sample Size
* 8.3 cm Width of Ear Node Leaf	1.41	25	11.4	1.01	25
* 59.7 cm Length of Ear Node Leaf	7.33	25	57.1	4.11	25
* 6.0 Number of leaves above top ear	0.66	25	6.0	0.44	25
44.7 degrees Leaf Angle (measure from 2nd leaf above ear at anthesis to stalk above leaf)	8.27	25	46.1	6.31	25
* 03 Leaf Color (Munsell code 7.5 GY (5/6))			02 (Munsell code 7.5GY 5/6)		
2 Leaf Sheath Pubescence (Rate on scale from 1=none to 9=like peach fuzz)			2		
2 Marginal Waves (Rate on scale from 1=none to 9=many)			2		
2 Longitudinal Creases (Rate on scale from 1=none to 9=many)			2		
6. TASSEL:	Standard Deviation	Sample Size		Standard Deviation	Sample Size
* 8 Number of Primary Lateral Branches	0.91	25	12	1.01	25
54.1 Branch Angle from Central Spike	9.47	25	48.3	5.54	25
* 21.3 cm Tassel Length (from top leaf collar to tassel tip)	3.86	25	23.1	4.01	25
8 Pollen Shed (Rate on scale from 0=male sterile to 9=heavy shed)			8		
06 Anther Color (Munsell code 5Y (8.6 to 8.8))			05 (Munsell code 5Y 8/12)		
02 Glume Color (Munsell code 2.5 GY (8.6 to 8.8))			02 (Munsell code 2.5GY 8/10)		
1 Bar Glumes (Glume Bands): 1=Absent 2=Present			1		
7a. EAR (Unhusked Data):					
* 19 Silk Color (3 days after emergence) (Munsell code 2.5GY 8/2-8/4)			19 (Munsell code 2.5GY 8/2-8/4)		
03 Fresh Husk Color (25 days after 50% silking) (Munsell code 7.5GY (5/6))			02 (Munsell code 7.5GY 6/8)		
22 Dry Husk Color (65 days after 50% Silking) (Munsell code 2.5Y (8/4))			22 (Munsell code 2.5Y 6/8)		
* 1 Position of Ear at Dry Husk Stage: 1=Upright 2=Horizontal 3=Pendent			1		
8 Husk Tightness (Rate on scale from 1=very loose to 9=very tight)			9		
3 Husk Extension (at harvest): 1=Short (ears exposed) 2=Medium (<8 cm) 3=Long (8-10 cm beyond ear tip) 4=Very Long (>10 cm)			3		
7b. EAR (Husked Ear Data):	Standard Deviation	Sample Size		Standard Deviation	Sample Size
* 17.1 cm Ear Length	4.11	25	20.8	2.83	25
* 38.7 mm Ear Diameter at mid-point	2.61	25	29.8	1.87	25
283.1 gm Ear Weight	5.97	25	261.2	7.01	25
* 16 Number of Kernel Rows	1.54	25	16	0.87	25
2 Kernel Rows: 1=Indistinct 2=Distinct			1		
1 Row Alignment: 1=Straight 2=Slightly Curved 3=Spiral			1		
4.3 cm Shank Length	0.61	25	04.6	0.54	25
2 Ear Taper: 1=Slight 2=Average 3=Extreme			2		

Application Variety Data	Standard Inbred Data

Note: Use chart on first page to choose color codes for color traits.

8. KERNEL (Dried):	Application Variety Data: Standard Deviation	Application Variety Data: Sample Size	Standard Inbred Data: Standard Deviation	Standard Inbred Data: Sample Size
8.0 mm Kernel Length	1.10	25	9.0	1.11	25
6.9 mm Kernel Width	0.71	25	8.6	1.30	25
5.1 mm Kernel Thickness	0.59	25	7.1	0.92	25
19.1 % Round Kernels (Shape Grade)	1.37	40,000 seeds	24.7	2.91	25
1 Aleurone Color Pattern: 1=Homozygous 2=Segregating			1 Homozygous		
(*) 18 Aleurone Color (Munsell code not applicable)			18 (Munsell code 5Y 8/2)		
* 07 Hard Endosperm Color (Munsell code 5Y (8/8))			19 (Munsell code 2.5Y 8/2)		
* 10 Endosperm Type: 1=Sweet (su1) 2=Extra Sweet (sh2) 3=Normal Starch 4=High Amylose Starch 5=Waxy Starch 6=High Protein 7=High Lysine 8=Super Sweet (se) 9=High Oil 10=Other combination of Su, Se, t Sh2 genetic types			8		
12.8 gm Weight per 100 Kernels (unsized sample)	0.67	40,000 seeds	13.1	0.81	5000 seeds

9. COB:	Application Variety Data: Standard Deviation	Application Variety Data: Sample Size	Standard Inbred Data: Standard Deviation	Standard Inbred Data: Sample Size
* 29.4 mm Cob Diameter at mid-point	3.81	25	42.8	5.18	25
19 Cob Color (Munsell code 2.5Y 8/4)			19 (Munsell code 2.5Y 8/6)		

10. DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested; leave Race or Strain Options blank if polygenic):

	Application Variety Data	Standard Inbred Data
A. Leaf Blights, Wilts, and Local Infection Diseases		
Anthracnose Leaf Blight (*Colletotrichum graminicola*)		
4 Common Rust (*Puccinia sorghi*)		4
Common Smut (*Ustilago maydis*)		5
Eyespot (*Kabatiella zeae*)		
Goss's Wilt (*Clavibacter michiganense* spp. *nebraskense*)		
Gray Leaf Spot (*Cercospora zeae-maydis*)		
Helminthosporium Leaf Spot (*Bipolaris zeicola*) Race ____		Race ____
7 Northern Leaf Blight (*Exserohilum turcicum*) Race 1 and 2		2 Race ____
5 Southern Leaf Blight (*Bipolaris maydis*) Race T		Race ____
Southern Rust (*Puccinia polysora*)		
7 Stewart's Wilt (*Erwinia stewartii*)		2
Other (Specify) ____		____
B. Systemic Diseases		
Corn Lethal Necrosis (MCMV and MDMV)		
5 Head Smut (*Sphacelotheca reiliana*)		
Maize Chlorotic Dwarf Virus (MCDV)		5
Maize Chlorotic Mottle Virus (MCMV)		
5 Maize Dwarf Mosaic Virus (MDMV) Strain A and B		Strain ____
Sorghum Downy Mildew of Corn (*Peronosclerospora sorghi*)		
Other (Specify) ____		____
C. Stalk Rots		
Anthracnose Stalk Rot (*Colletotrichum graminicola*)		
Diplodia Stalk Rot (*Stenocarpella maydis*)		
Fusarium Stalk Rot (*Fusarium moniliforme*)		
Gibberella Stalk Rot (*Gibberella zeae*)		
Other (Specify) ____		____
D. Ear and Kernel Rots		
5 Aspergillus Ear and Kernel Rot (*Aspergillus flavus*)		
4 Diplodia Ear Rot (*Stenocarpella maydis*)		
6 Fusarium Ear and Kernel Rot (*Fusarium moniliforme*)		
Gibberella Ear Rot (*Gibberella zeae*)		
Other (Specify) ____		____

Note: Use chart on first page to choose color codes for color traits.

Application Variety Data	Page 4	Standard Inbred Data 200100015

11. INSECT RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested):

	Standard Deviation	Sample Size		Standard Deviation	Sample Size
__ Banks Grass Mite (*Oligonychus pratensis*)			__		
Corn Earworm (*Helicoverpa zea*)					
__ Leaf-Feeding			__		
Silk Feeding :					
___.__ mg larval wt.	_____	____	___.__	_____	____
__ Ear Damage					
6 Corn Leaf Aphid (*Rhopalosiphum maidis*)			5		
7 Corn Sap Beetle (*Carpophilus dimidiatus*)			4		
European Corn Borer (*Ostrinia nubilalis*)					
__ 1st Generation (Typically Whorl Leaf Feeding)			__		
__ 2nd Generation (Typically Leaf Sheath-Collar Feeding)			__		
Stalk Tunneling :					
___.__ cm tunneled/plant	_____	____	___.__	_____	____
Fall Armyworm (*Spodoptera frugiperda*)					
__ Leaf-Feeding			__		
Silk-Feeding :			__		
___.__ mg larval wt.	_____	____	___.__	_____	____
__ Maize Weevil (*Sitophilus zeamaize*)			__		
__ Northern Rootworm (*Diabrotica barberi*)			__		
__ Southern Rootworm (*Diabrotica undecimpunctata*)			__		
Southwestern Corn Borer (*Diatraea grandiosella*)					
__ Leaf Feeding			__		
Stalk Tunneling :					
___.__ cm tunneled/plant	_____	____	___.__	_____	____
__ Two-spotted Spider Mite (*Tetranychus urticae*)			__		
__ Western Rootworm (*Diabrotica virgifera virgifera*)			__		
__ Other (Specify) _____			__ _____		

12. AGRONOMIC TRAITS:

2 Stay Green (at 65 days after anthesis) (Rate on a scale from 1=worst to 9=excellent.)	2
6.6 % Dropped Ears (at 65 days after anthesis)	__.__
1.0 % Pre-anthesis Brittle Snapping	__.__
3.1 % Pre-anthesis Root Lodging	__.__
8.2 % Post-anthesis Root Lodging (at 65 days after anthesis)	__.__
___.__ Kg/ha Yield of Inbred Per Se (at 12-13% grain moisture) see comments	___.__ botton page 4

13. MOLECULAR MARKERS: (0=data unavailable; 1=data available but not supplied; 2=data supplied)

__ Isozymes __ RFLP's __ RAPD's

REFERENCES:

Butler, D.R. 1954. A System for the Classification of Corn Inbred Lines. PhD Thesis, Ohio State University.
Emerson, R.A., G.W. Beadle, and A.C. Fraser. 1935. A Summary of Linkage Studies in Maize. Cornell A.E.S., Mem. 180.
Farr, D.F., G.F. Bills, G.P. Chamuris, A.Y. Rossman. 1989. Fungi on Plant and Plant Products in the United States. The American Phytopathological Society, St. Paul, MN.
Inglett, G.E. (Ed.) 1970. Corn: Culture, Processing, Products. Avi Publishing Company, Westport, CT.
Jugenheimer, R.W. 1976. Corn: Improvement, Seed Production, and Uses. John Wiley & Sons, New York.
McGee, D.C. 1988. Maize Diseases. APS Press, St. Paul, MN. 150 pp.
Munsell Color Chart for Plant Tissues. Macbeth. P.O. Box 230. Newburgh, N.Y. 12551-0230
The Mutants of Maize. 1968. Crop Science Society of America. Madison, WI.
Shurtleff, M.C. 1980. Compendium of Corn Diseases. APS Press, St. Paul, MN. 105 pp.
Sprague, G.F., and J.W. Dudley (Editors). 1988. Corn and Corn Improvement, Third Edition. Agronomy Monograph 18. ASA, CSSA, SSSA, Madison, WI.
Stringfield, G.H. Maize Inbred Lines of Ohio. Ohio A.E.S., Bul. 831. 1959.
U.S. Department of Agriculture. 1936, 1937. Yearbook.

COMMENTS (eg. state how heat units were calculated, standard inbred seed source, and/or where data was collected. Continue in Exhibit D):

(1) is concidered in the sweet corn class and is a combination of su, (sugary), sh2 (shrunken-2), and se (sugary enhancer) genetic types.

(2) Data collected from Belle Glade, Florida area - designated seed source row

(12) averages approximately 375 crates/acre where one crate holds an average of 48 ears at 75% moisture.

23

THERE WERE NOTED RATHER LARGE STANDARD DEVIATIONS RELATING TO PLANT HEIGHT, NUMBER OF KERNEL ROWS, AND KERNEL LENGTH.

THESE DEVIATIONS WERE CONSIDERED DUE MOSTLY TO CONDITIONS INHERENT TO THE PLANTING AND TESTING SITES (FLORIDA, BELLE GLADE MUCK SOILS). THE SOILS THAT CONSTITUE THE COMMERCIAL AND THEREFORE TEST SITES ARE COMPRISED OF HIGHLY ORGANIC MINERAL SOILS WITH SUBSTANTIAL LEVELS OF INORGANIC SAND (2-40%).

EVEN UTILYZING STATISTICALLY SELECTED RANDOMIZED BLOCK DESIGNS, SIGNIFICANT VARIATION IS LIKELY TO BE EXPERIENCED DUE TO THE MORE OR LESS RANDOMLY VARIABLE SOIL STRUCTURE (MUCK TO SAND, ETC.). IN ADDITION THESE SOILS ARE IRRIGATED VIA SUBSURFACE METHODS WHICH TENDS TO CONTRIBUTE TO STATISTICAL VARIATION.

WE BELIEVE THAT BY USING THE DESCRIBED STATISTICAL DESIGN, SAMPLE SIZES, SAMPLING TECHNIQUES, ETC., THE DATA ARE VALID AND REPRESENTATIVE.

REPRODUCE LOCALLY. *Include form number and edition date on all reproductions.* FORM APPROVED - OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Abbott & Cobb, Inc.	ACX 812	~~ACX 812~~ # 8204

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	5. TELEPHONE *(include area code)*	6. FAX *(include area code)*
4151 Street Road P.O. Box 307 Feasterville, PA 19053-0307	215-245-6666	215-245-1068

7. PVPO NUMBER 2001 00015

8. Does the applicant own all rights to the variety? *Mark an "X" in appropriate block.* If no, please explain. [X] YES [ ] NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? [X] YES [ ] NO
If no, give name of country

10. Is the applicant the original owner? [X] YES [ ] NO ***If no, please answer one of the following:***

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

[ ] YES [ ] NO **If no, give name of country**

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

[ ] YES [ ] NO **If no, give name of country**

11. Additional explanation on ownership *(if needed, use reverse for extra space)*:

The variety ACX 812 and the technology associated with the development of variety ACX 812 is owned entirely by Abbott & Cobb, Inc. ACX 812 and the technology associated with it has been developed in its entirety under the corporation's direction and expense. The plant breeder of this variety is Dr. Bryant J. Long, Phd. who is Vice President of Product Development for the corporation.

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.